

KENDALL GREEN ENERGY, LLC  
265 First Street  
Cambridge, MA 02142

March 4, 2016

Mr. George Harding P.E  
United States Environmental Protection Agency  
Region 1  
5 Post Office Square  
Suite 100  
Boston Massachusetts 02109-3912

Re: Kendall Cogeneration Station  
NPDES Permit no. MA0004898  
Administrative Order Docket No. 11-005

Dear Mr. Harding:

I am writing on behalf of Kendall Green Energy, LLC ("Kendall") as a follow-up to my November 6, 2015 email to you and our related discussions during your November 4, 2015 visit to the Kendall facility. Kendall continues to make significant progress with its construction activities and is working diligently to deliver the Kendall reconfiguration project in a safe and timely manner.

During your November visit, we discussed the possibility and likelihood of certain obstacles interfering with the completion schedule.<sup>1</sup> You requested that once we had a better understanding of these factors, and the effects to the schedule, we submit a final formal request for additional time, if deemed necessary. As you may recall, in November it was noted that our current schedule is well ahead of the original Administrative Order, given that Veolia found a faster alternative to construct the new steam supply main from Cambridge to Boston. This alternative solution accelerated the timetable for eliminating the thermal discharge to the Charles River. Since the commissioning of the steam pipeline in December 2013, Kendall has met the interim thermal discharge limits from the facility.<sup>2</sup> In

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<sup>1</sup> Based on our communications in November 2015, it is our understanding that July 1, 2016 is understood to be the current completion milestone for this project under the Administrative Consent Order, subject to further revision through this letter request.

<sup>2</sup> The Heat Load limits in each of the three periods have satisfied the average mmBTU/Day levels according to specified daily averages during each interim compliance period. This methodology of calculation takes into account the extension of the ACO compliance deadline for the third interim compliance period to July 1, 2016 and projected thermal discharge from the date of this letter through the end of June.

November, we also discussed three areas that posed significant risk to our construction schedule. These three areas were as follows:

1. Winter weather
2. Generator #3 repair
3. Start-up and commissioning

### **Winter Weather**

We have been fortunate that, to date, this winter has not resembled the record-breaking winter of 2015. As we discussed in our meeting, the winter of 2015 caused our schedule to slip and the historic snowfall amounts created challenges for field activities and deliveries. Fortunately, this year we were able to work on the roof on most days, and were successful in mounting the high-pressure air-cooled condenser (ACC). We are hopeful that the weather continues to cooperate as we complete our outside electrical and mechanical scope.

### **Generator #3**

As part of our approach to this project, we are removing steam turbine #3 (ST#3) and replacing it with a back pressure steam turbine (BPST). We will keep the original generator in place and connect the new BPST to it. On January 19, 2016, we permanently removed ST#3 from operation, and subsequently decoupled and removed Generator #3. ST#3 was then turned over to our Contractor (SKANSKA) for demolition.

We also contracted with General Electric (GE) to conduct a condition assessment and refurbishment plan for Generator #3. GE field staff inspected and tested the stator and developed a comprehensive rehabilitation plan for the unit. It was determined that the stator required some minor mechanical repairs (i.e., re-wedge, core tightening). These repairs were started on February 9, 2016 and are expected to be completed by the end of the March. The Generator #3 auxiliaries (bearings, oil seals, oil deflectors, seal oil pumps, seal oil regulators and vacuum pump) are now offsite at various vendor facilities being refurbished.

The Generator #3 Field Rotor was first shipped to GE's Atlanta service center for evaluation and refurbishment. GE conducted further electrical testing and identified deficiencies that were promptly repaired. The Field Rotor was then released from the Atlanta facility and shipped to GE's Houston Balancing Facility for additional testing at high speed. On February 16, 2016, we were informed that the Field Rotor unit experienced winding faults during the high-speed balance and, as a result, GE has recommended that it be rewound. Obviously, this event causes delay and will have a negative impact on the construction sequence schedule. We currently believe that the unit will be repaired, re-tested and shipped back to us in April.

### **Start-up and commissioning status**

The execution of this project has been challenging and, through the challenges, we have worked diligently to advance the project towards a safe and successful

completion. We have faced many construction challenges, all while keeping the facility in operation to meet both the demands of ISO New England and our steam customers. We are approaching a very critical time in this project that will require us to keep our focus on both the short-term and long-term needs of the facility.

Based upon the previous ACO extension, our approved outage with ISO New England at the end of 2015 was cancelled. We subsequently requested a shutdown of the power generation portion of the plant from April 7, 2016 to April 26, 2016. Due to localized electric constraints anticipated during the month of April, ISO New England could not approve that request and instead has authorized a shutdown of the generation assets from May 8, 2016 to May 27, 2016. During this shutdown period SKANSKA will complete the balance of high-pressure steam tie-ins, pipe insulation, valves, supports, electrical connections, BPST mechanical completion, operator training, and start-up pre-checks. We anticipate the steam blow will be conducted the week of May 25.

The cumulative effect of project obstacles and delays has now pushed commissioning of the BPST and ACC into at least the second quarter of 2016. This means that commissioning will take place when the weather is warmer, which presents a complication as to whether or not we will have adequate district steam load to successfully test the BPST under its full operating range. In order to minimize future schedule delays to the project, we implemented a change order to the project which will allow existing steam turbines 1 and 2 to remain connected to the high pressure steam header and continue to operate during the commissioning period. This change allows us to fulfill our delivery obligations for both steam and electricity, while continuing to operate within all permits, and it minimizes the risk of schedule impacts from BPST/ACC commissioning activities.

The BPST commissioning process requires 550 Mlb/hr of steam flow. In order to achieve this steam flow condition, it is necessary that the CT be on-line. The CT currently has an approximately twelve hour startup time and four hour shutdown time. In order to effectively commission the BPST, Kendall anticipates that the CT will remain on-line during interim periods in the commissioning process (i.e., overnight, during adjustment to software or sequencing, when correcting mechanical/electrical deficiencies identified in commissioning, etc.). To effectively keep the CT on-line, ST1 and ST2 will need to operate in condensing mode until commissioning of the BPST has been completed.

Further complicating the commissioning activity is the extensive Longfellow Bridge Restoration project being executed by the Massachusetts Department of Transportation (MADOT). One of the primary pipelines from Kendall Station serving Boston is scheduled to be removed from service July 7, 2016 to August 31, 2016 and transitioned to a new pipeline at the end of this period. Kendall will have an obligation to support this critical schedule with a steam blow of the new pipeline scheduled for August 27, 2016. This activity will require a fully commissioned BPST, or the use of ST1 and ST2 at Kendall Station. This activity is a critical

milestone in the overall schedule of completing the Longfellow Bridge structural components and ultimately returning the road to service for use by the general public.<sup>3</sup>

Based on our current deadline and the work schedule, we will have only 30 days after the May installation to commission the new systems. As with any start-up, we anticipate that we will face an array of challenges. That is almost inevitable, particularly for a project of this size and complexity. We believe that a 30 day time period for commissioning is far too short and we would like to see 90 days of additional start-up and commissioning. We obviously will be doing everything we can during this period to bring the system up to its anticipated normal operating condition.

In light of these circumstances, we respectfully request that EPA extend our final compliance date to October 1, 2016.

Our efforts to date have been driven towards delivering a safe, functional, and environmentally sound project. We have made a substantial financial investment in the new steam line and the plant upgrades over the past few years. This project at its completion will also have positive long-term environmental impacts to the community. We are appreciative of EPA's support during the execution of this project and your understanding of the challenges that we have had to overcome to bring this project to a close.

Sincerely



William J. Fahey  
Senior Vice President-Technology

CC Bill DiCroce  
Vincent Martin  
Sean Caldwell  
Scott McBurney  
John Gibson

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<sup>3</sup> It is worth noting again that had Veolia not developed the alternative route for the new steam supply main, the installation and commissioning of the second steam line to Boston would have been subject to MADOT's Longfellow Bridge schedule, with commercial operations date of the second pipeline pushed from December 2013 to late 2016. As the compliance deadlines in the original ACO were predicated upon the completion of this pipeline, compliance with the original ACO would have been pushed out until at least the end of 2018.